

I Claim

1. A method of digital watermark embedding of messages in a media signal using quantization index modulation comprising:

receiving samples of the media signal;

5 receiving a watermark payload comprised of messages;

embedding the messages by quantizing samples of the media signal with multi-dimensional space filling quantizers corresponding to values of the messages being embedded.

10 2. The method of claim 1 wherein the space filling quantizers comprise lattice vector quantizers.

3. The method of claim 1 wherein the space filling quantizers comprise trellis code quantizers.

15 4. A computer readable medium comprising instructions for performing the method of claim 1.

20 5. A method of digital watermark decoding of messages in a media signal using quantization index modulation comprising:

receiving samples of the media signal;

quantizing the samples with multi-dimensional space filling quantizers corresponding to possible message values;

25 determining from the quantizing which of the possible message values is embedded in the samples of the media signal.

6. The method of claim 5 wherein the space filling quantizers comprise lattice vector quantizers.

7. The method of claim 5 wherein the space filling quantizers comprise trellis code quantizers.

8. A computer readable medium comprising instructions for performing the  
5 method of claim 5.

1. A computer readable medium comprising instructions for performing the method of claim 5, wherein the instructions are embodied in a computer readable medium.